Proposed Item for Biobased Designation

The following biobased product information has been collected to support item designation by USDA for the BioPreferred Program. This summary reflects data available as of January 24, 2007.

Title: Multipurpose Cleaners

Description: Products used to clean dirt, grease, and grime from a variety of items in both industrial and domestic settings. This designated item does not include products that are formulated for use as disinfectants.

Manufacturers Identified: 39 manufacturers producing Multipurpose Cleaners have been identified through internet searches, manufacturer's directories, trade associations, and company submissions.

Industry Associations Investigated: The following industry associations have been investigated for member companies producing Multipurpose Cleaners:

- Biobased Manufacturers Association
- United Soybean Board
- Biomass Energy Research Association
- US Fuel Cell Council

Commercially Available Products Identified: Of the manufacturers identified, 61 Multipurpose Cleaners are commercially available on the market.

Product Information Collected: Specific product information including company contact, intended use, biobased content, and performance characteristics have been collected on 12 Multipurpose Cleaners.

Industry Performance Standards: Product information submitted by biobased manufacturers indicate that have typically been tested to the following industry standards:

- Society of Automotive Engineers #APR 1755B, category 10 for use in the aerospace industry Effect of Cleaning Agents on Aircraft Engine Materials, Stock Loss Test Method
- American Society for Testing and Materials #D1298-99(2005) Standard Test Method for Density, Relative Density (Specific Gravity), or API Gravity of Crude Petroleum and Liquid Petroleum Products by Hydrometer Method
- American Society for Testing and Materials #D130-04e1 Standard Test Method for Corrosiveness to Copper from Petroleum Products by Copper Strip Test
- American Society for Testing and Materials #D2500-05 Standard Test Method for Cloud Point of Petroleum Products
- American Society for Testing and Materials #D86-05 Standard Test Method for Distillation of Petroleum Products at Atmospheric Pressure
- Environmental Protection Agency #600/4-90/027F Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms

- Green Seal #GS-34 This standard establishes environmental requirements for cleaning/degreasing agents.
- Green Seal #GS-37 Green Seal Environmental Standard for General-Purpose, Bathroom, Glass, and Carpet Cleaners Used for Industrial and Institutional Purposes
- International Organization for Standardization #ISO 14001 Primarily concerned with "environmental management". This means what the organization does to minimize harmful effects on the environment caused by its activities, and to achieve continual improvement of its environmental performance.
- International Organization for Standardization #ISO 9000 Primarily concerned with "quality management". This means what the organization does to fulfil the customer's quality requirements, and applicable regulatory requirements, while aiming to enhance customer satisfaction, and achieve continual improvement of its performance in pursuit of these objectives.
- Organization for Economic Cooperation and Development #OECD 301B CO2 Evolution Test for biodegradation
- Enviromental Protection Agency Method #601 Purgeable Halocarbons
- Enviromental Protection Agency Method #602 Purgeable Aromatics
- Enviromental Protection Agency Method #608 Organochlorine Pesticides and PCBs

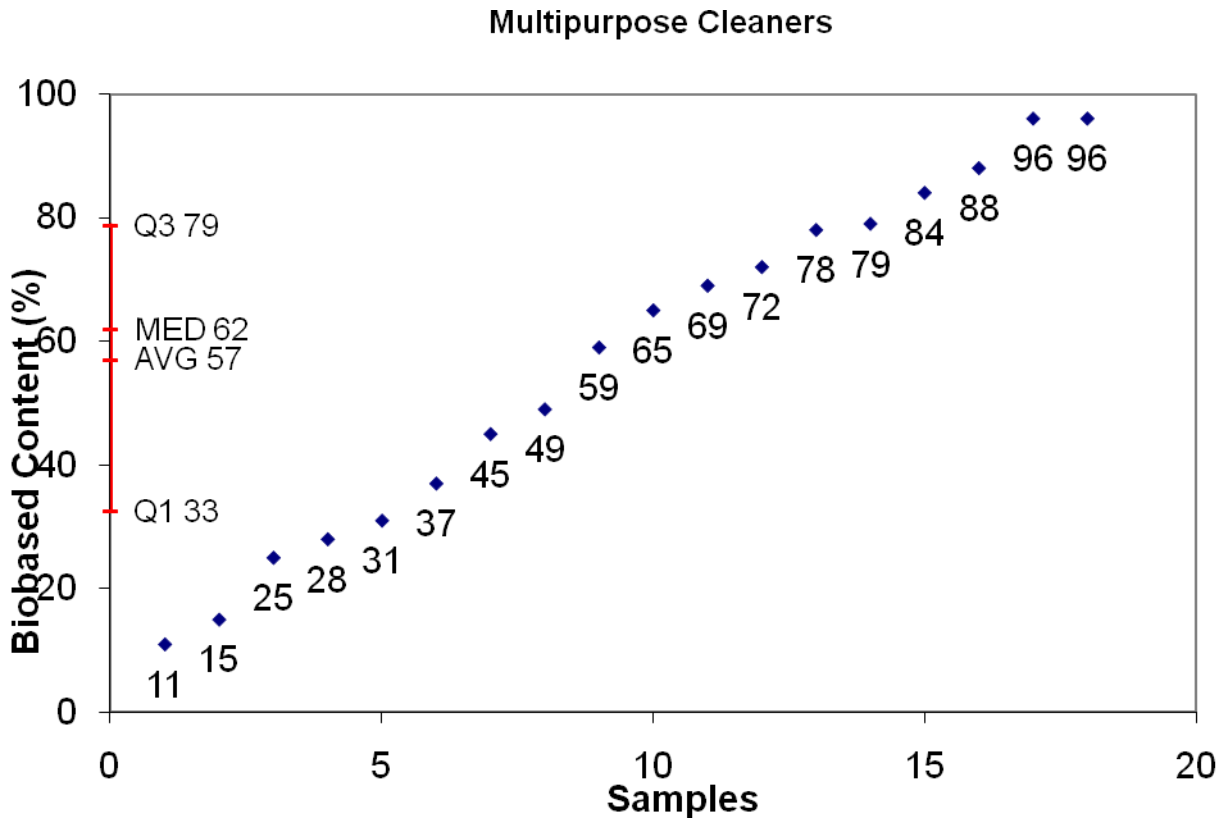
Samples Tested for Biobased Content: 18 samples of Multipurpose Cleaners have been submitted to independent laboratories for biobased content testing as specified by ASTM standard D6866-04.

Biobased Content Data: Results from biobased content testing of Multipurpose Cleaners indicate a range of content percentages from 11% minimum to 96% maximum biobased content as defined by ASTM D 6866-04. A detailed distribution of biobased content levels is included as Appendix A.

Products Submitted for BEES Analysis: Life-cycle cost and environmental effect data for 1 Multipurpose Cleaners have been submitted to NIST for BEES analysis.

BEES Analysis: The life-cycle costs of the submitted Multipurpose Cleaners range from $5950.00 minimum to $5950.00 maximum per usage unit. The environmental scores range from 0.0649 minimum to 0.0649 maximum. A detailed summary of the BEES results is included as Appendix B.

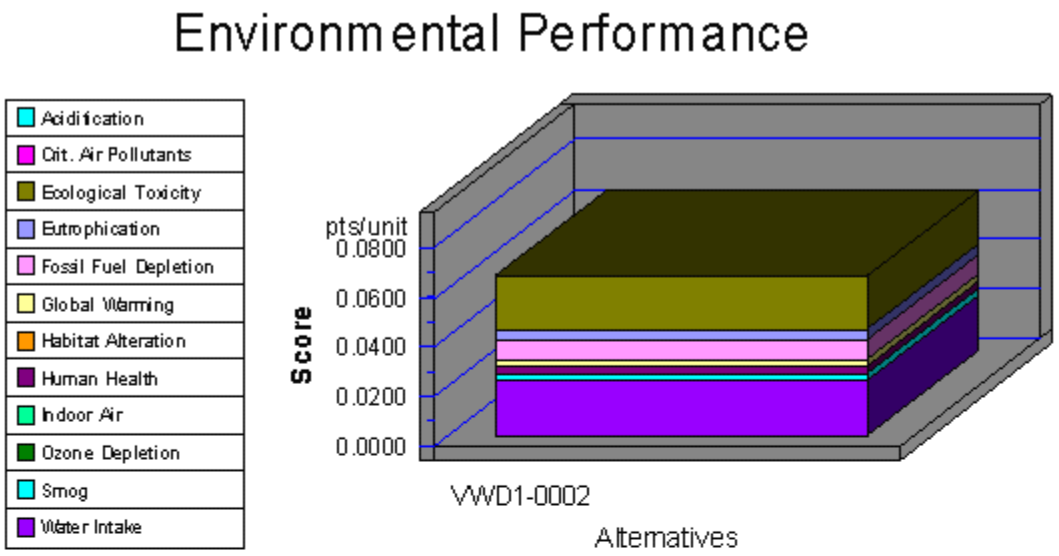
Appendix A - Biobased Content Data



	Companies Identified	Products Identified	C14	BEES
1	WH38	WH38-0003	11	
2	W916	W916-0002	15	
3	C9PX	C9PX-0014	25	
4	YJ3R	YJ3R-0008	28	
5	TA8E	TA8E-0012	31	
6	C9PX	C9PX-0019	37	
7	M2RO	M2RO-0021	45	
8	VWD1	VWD1-0002	49	yes
9	WF5U	WF5U-0032	59	
10	WF5U	WF5U-0011	65	
11	RGWJ	RGWJ-0052	69	
12	MODM	MODM-0006	72	
13	TA8E	TA8E-0032	78	
14	ULHI	ULHI-0037	79	
15	ULHI	ULHI-0017	84	
16	TPHG	TPHG-0035	88	
17	W916	W916-0004	96	
18	RDO8	RDO8-0005	96	

Appendix B - BEES Analysis Results

Units: 1000 gallons

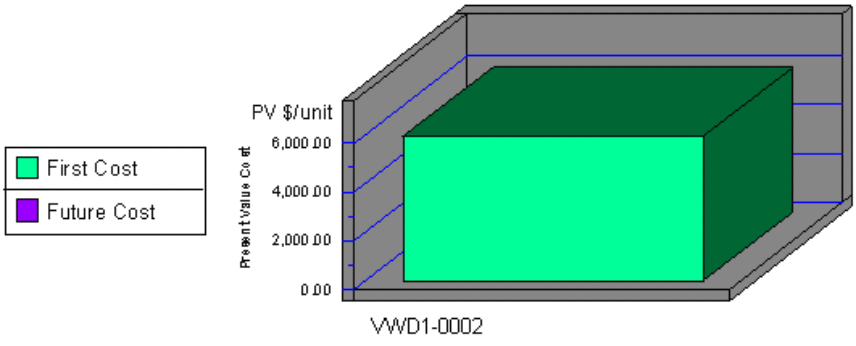


Note: Lower values are better

Category	VWD1-0002
Acidification–5%	0.0000
Crit. Air Pollutants--6%	0.0004
Ecolog. Toxicity–11%	0.0213
Eutrophication--5%	0.0046
Fossil Fuel Depl.--5%	0.0072
Global Warming–16%	0.0029
Habitat Alteration–16%	0.0000
Human Health–11%	0.0033
Indoor Air–11%	0.0000
Ozone Depletion--5%	0.0000
Smog--6%	0.0026
Water Intake--3%	0.0226
Sum	0.0649

Appendix B (continued)

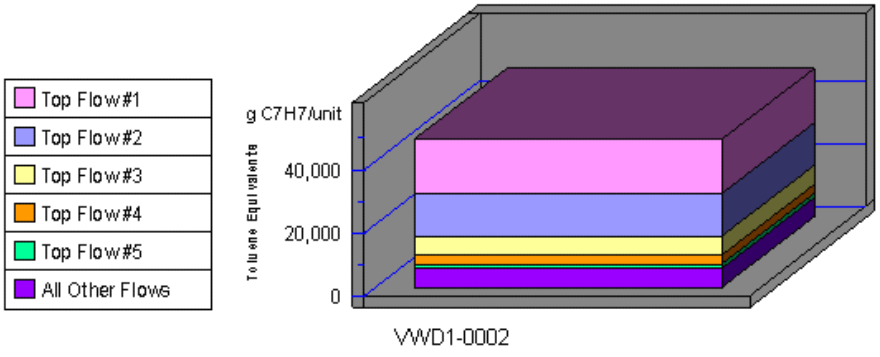
Economic Performance



Category	VWD1-0002
First Cost	5950.00
Future Cost – 3.9%	0.00
Sum	5950.00

*No significant/quantifiable durability differences were identified among competing alternatives. Therefore, future costs were not calculated.

Human Health by Sorted Flows*



Note: Lower values are better

Category	VWD1-0002
Cancer--(w) Arsenic (As3+, As5+	17,055.55
Cancer--(a) Atrazine (C8H14ClN5	13,482.90
Cancer--(w) Phenol (C6H5OH)	6,310.17
Cancer--(a) Arsenic (As)	2,427.22
Cancer--(a) Dioxins (unspecifie	1,815.07
All Others	6,021.05
Sum	47,111.96

*Sorted by five topmost flows for worst-scoring product